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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/586,057	NISHINO, SATOSHI
	<b>Examiner</b> STEPHEN R. KOZIOL	<b>Art Unit</b> 2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 14 July 2006.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-22 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 14 July 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)

Paper No(s)/Mail Date 07/14/2006

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date: \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

**Detailed Action**

1. This non-final Office action is responsive to Applicants' original application filed 14 July 2006. Claims 1-22 are presented for examination and claims 1-22 are rejected for the reasons indicated hereinbelow.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 14 July 2006 is in compliance with the provisions of 37 C.F.R. § 1.97. Accordingly, the IDS has been considered by the examiner.

***Priority***

3. Acknowledgment is made of Applicants' claim for foreign priority under 35 U.S.C. § 119(a)-(d) of Japanese Patent Application No. 2004-045440 filed on 22 January 2004.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-22 are rejected under 35 U.S.C. § 101 as not falling within one of the four statutory categories of invention. For a process to be statutory under 35 U.S.C. § 101 it must not be directed to an abstract idea. One useful clue to show that a process is not directed to an abstract idea is to claim a process that passes the machine-or-transformation ("MoT") test<sup>[11]</sup>.

<sup>[11]</sup> See *Bilski et al v. Kappos* (S Ct. 08-964),

Based upon consideration of all of the relevant factors with respect to the claims as a whole, independent claims 1, 2, 10, 18 and 22, and all claims dependent therefrom, are held to claim an abstract idea, and therefore are rejected as ineligible subject matter under 35 U.S.C. § 101.

Each of instant independent claims 1, 2, 10, 18 and 22 and all claims dependent therefrom recites a method that fails to specify structure that is significant to the basic inventive concept. That is, the “particular machine” tasked with performing the critical steps of claims 1, 2, 10, 18 and 22 is not recited. Furthermore, the method steps of claims 1, 2, 10, 18 and 22 are so broadly recited that they can encompass purely human activity, and do not require a machine to implement. (Although claim 22 recites using a television camera, the camera is used exclusively for data gathering purposes and so constitutes insignificant extra-solution activity.) Therefore, independent claims 1, 2, 10, 18 and 22 (and all claims dependent therefrom) fail the machine prong of the MoT test.

Turning to the transformation prong, instant independent claims 1, 2, 10, 18 and 22 fail to recite data equivalent to a particular article, fail to transform an article into a different state or thing, and fail to depict a transformed article as an external representation of a physical object. Hence, claims 1, 2, 10, 18 and 22 and all claims dependent therefrom also fail the “transformation” prong of the MoT test.

Furthermore, there is no clear indication that the claims are not directed to an abstract idea (i.e., as indicated above, the claimed method could be executed by a human without the use of any machine; therefore, the claims as a whole are abstract). At least because the independent claims fail the MoT test, and because there is no clear indication that the methods are not directed to an abstract idea, claims 1-22 encompass an abstract idea.

For a more detailed explanation of this or other Office policy, Applicants may refer to the Office of Patent Legal Administration (OPLA):

- (571) 272-7701 – General patent examination legal and policy guidance

One common way to overcome Bilski '101 rejections is to amend the independent claims to recite “a processor” (or equivalent) for performing one or more of the critical steps, thereby satisfying the machine prong of the MoT test. E.g., for claim 1: “Using a processor to execute a A gender identification method....” Alternatively, or in addition, Applicants may submit arguments rebutting the above *prima facie* showing of a clear indication of an abstract idea<sup>[2]</sup>.

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[2] See Memorandum to the Examining Corps, Regarding the Supreme Court Decision in *Bilski v. Kappos*, issued June 28, 2010, available at <http://www.uspto.gov/patents/law/exam/memoranda.jsp>

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 15 currently recites:

*(Claim 15) A gender identification method comprising three methods among the methods of claim 2, wherein when the results are the same between two methods thereamong, that result is adopted as the discrimination result.*

It is unclear what the “three methods among the methods of claim 2” is intended to refer to.

Additionally, there appears to be only one method in claim 2, not three. Please revise claim 15 to clarify the above-noted issues.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-15 are rejected under 35 U.S.C. § 102(a) as being anticipated by Satoshi Nishino et al., "Gender Determining Method using Thermography" 2004 International conference on Image Processing (ICIP) October 2004, pp. 2961-2965 (“Nishino”).

Regarding independent claim 1, Nishino teaches a gender identification method characterized in utilizing body surface temperature of a human (see *Nishino Sect. 1 Introduction, pp. 2961 and Fig. 4*).

Regarding independent claim 2, Nishino teaches a gender identification method characterized in conducting gender discrimination based on the temperature of a facial region of a human (see *Nishino Sect. 1 Introduction, pp. 2961 and Fig. 4*).

Regarding claim 3, Nishino teaches the gender identification method as claimed in claim 2, wherein the facial region is the cheek region (see *Nishino Sect. 3, pp. 2962*).

Regarding claim 4, Nishino teaches the gender identification method as claimed in claim 3, wherein gender discrimination is conducted based on the temperature of the cheek region (see *Nishino Sect. 3, pp. 2962*).

Regarding claim 5, Nishino teaches the gender identification method as claimed in claim 3, wherein gender discrimination is conducted based on the temperature and temperature variance of the cheek region (see *Nishino Sect. 3, pp. 2961-62*).

Regarding claim 6, Nishino teaches the gender identification method as claimed in claim 5, wherein the temperature variance is a variance value based on 
$$\frac{1}{n} \sum_{i=1}^n (X_i - \bar{X})^2$$
 (see *Nishino Sect. 3, pp. 2962, equation (1)*).

Regarding claim 7, Nishino teaches the gender identification method as claimed in claim 5, wherein the temperature variance is a variance value based on 
$$\frac{1}{n} \sum_{i=1}^n (X_i - \bar{X})^4$$
 (see *Nishino Sect. 3, pp. 2962, equation (2)*).

Regarding claim 8, Nishino teaches the gender identification method as claimed in claim 2, wherein the facial region is the cheek region and jaw region (*see Nishino Sect. 3, pp. 2962*).

Regarding claim 9, Nishino teaches the gender identification method as claimed in claim 8, wherein gender discrimination is conducted based on the ratio of the temperatures of the cheek region and jaw region (*see Nishino Sect. 3, pp. 2962*).

Regarding claim 10, Nishino teaches the gender identification method characterized in that gender discrimination is conducted based on a combination of the temperatures of facial regions and hand regions of a human (*see Nishino Sect. 7, pp. 2964*).

Regarding claim 11, Nishino teaches the gender identification method as claimed in claim 1, wherein gender discrimination is conducted by applying temperature sampling templates to facial regions of a human and subjecting the temperatures of the sampled regions to statistical processing (*see Nishino Sect. 7, pp. 2964*).

Regarding claim 12, Nishino teaches the gender identification method as claimed in claim 1, wherein gender discrimination is conducted by applying a temperature sampling template to a hand region of a human and subjecting the temperature of the sampled region to statistical processing (*see Nishino Sect. 7, pp. 2964*).

Regarding claim 13, Nishino teaches the gender identification method as claimed in claim 1, wherein gender discrimination is conducted by applying temperature sampling templates to facial and hand regions of a human, subjecting the temperature of the sampled regions to statistical processing with the terms for calculating the variance thereof changed from the second power to the fourth power, and using the so-obtained variance values for the gender discrimination (*see Nishino Sect. 7, pp. 2964*).

Regarding claim 14, Nishino teaches the gender identification method as claimed in claim 1, wherein gender discrimination is conducted using in combination data obtained by applying temperature sampling templates to facial regions of a human and subjecting the temperatures of the sampled regions to statistical processing and data obtained by applying a temperature sampling template to a hand region of the human and subjecting the temperature of the sampled region to statistical processing (*see Nishino Sect. 7, pp. 2964*).

Regarding claim 15, Nishino teaches the gender identification method comprising three methods among the methods of claim 2, wherein when the results are the same between two methods thereamong, that result is adopted as the discrimination result (*see Nishino Sect. pp.2961 and Sect. 7, pp. 2964*).

#### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable Satoshi Nishino et al., "Gender Determining Method using Thermography" 2004 International

conference on Image Processing (ICIP) October 2004, pp. 2961-2965 (“Nishino”), in view of Heo “Fusion of Visual and Thermal Face Recognition Techniques: A Comparative Study” The University of Tennessee, Knoxville, October 2003 available at: <http://imaging.utk.edu/publications/papers/dissert> (“Heo”).

Regarding claim 16, Nishino teaches the gender identification method based on the method of claim 1, but Nishino is silent on the method further comprising the limitation wherein the method is unaffected by any eyeglass region when the subject is wearing glasses. However, Heo teaches a similar combined thermal and visual face recognition system comprising fusing the results of thermal and visual facial characteristics to conduct face recognition. One aspect of Heo’s face recognition system includes robustness to users wearing eyeglasses (*see Heo Figs. 37 and 37 as described on pages 55-56*).

The ordinarily-skilled artisan, starting with the gender detection system of Nishino, would have appreciated the benefits of making the system robust to users wearing eyeglasses, as proposed by Heo. The artisan of ordinary skill, with recourse to common sense, would readily see the benefits of eyeglasses robustness, which would produce the well-known, predictable and expected results and benefits of increasing the accuracy of the resulting gender determination. The artisan of ordinary skill would have been motivated to combine Nishino with Heo, as proposed above, at least because both Nishino and Heo are similarly directed to thermal face feature analysis and recognition.

Therefore, a person having ordinary skill in the image processing arts at the time of the invention would have found it obvious to combine the eyeglasses robustness of Heo with the

gender determination system of Nishino to achieve the well-known and expected benefits of increasing the accuracy of the resulting gender determination.

Regarding claim 18, Nishino teaches a gender identification method for discriminating whether a human subject of discrimination is male or female, which gender identification method is characterized in obtaining face image data on the subject, sampling the temperature of the cheek region of the subject based on the infrared face image data, and discriminating based on the sampled cheek region temperature whether the subject is male or female (*see Nishino Sect. 3, pp. 2962*).

However, Nishino is silent on “obtaining *infrared* face image data on the subject” (emphasis added). Heo teaches a similar combined thermal and visual face recognition system comprising fusing the results of thermal and visual facial characteristics to conduct face recognition. One aspect of Heo’s face recognition system includes obtaining infrared face image data as the thermal image data for identifying users (*see Heo Sect. 1.3 as described on page 9*).

The ordinarily-skilled artisan, starting with the gender detection system of Nishino, would have appreciated the benefits of obtaining infrared face image data as the thermal image data for identifying users, as proposed by Heo. The artisan of ordinary skill, with recourse to common sense, would readily see the benefits of obtaining infrared face image data, which would produce the well-known, predictable and expected results and benefits of increasing the accuracy of the resulting gender determination. The artisan of ordinary skill would have been motivated to combine Nishino with Heo, as proposed above, at least because both Nishino and Heo are similarly directed to thermal face feature analysis and recognition.

Therefore, a person having ordinary skill in the image processing arts at the time of the invention would have found it obvious to combine the infrared face image data of Heo with the gender determination system of Nishino to achieve the well-known and expected benefits of increasing the accuracy of the resulting gender determination.

Regarding claim 19, Nishino teaches the gender identification method as claimed in claim 18, wherein the temperature of the jaw region of the subject is also sampled based on the face image data, and whether the subject is male or female is discriminated based on the sampled cheek region temperature and jaw region temperature (*see Nishino Sect. 3, pp. 2962*). Heo further teaches obtaining the infrared face image data, as explained re claim 18 above (*see Heo Sect. 1.3 as described on page 9*).

12. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prokoski et al. "Infrared Identification of Faces and Body Parts" Springer Biometrics: Personal Identification in Networked Society, pages 191-212, 2002 ("Prokoski"), in view of Gutta et al. "Mixture of experts for classification of gender, ethnic origin, and pose of human faces," IEEE Transactions on Neural Networks, Vol. 11 Issue 4, pages 948-960, July 2000 ("Gutta").

Regarding similar independent claims 1 and 2, Prokoski teaches a gender identification method characterized in utilizing body surface temperature of a human, including a facial region (*see Prokoski page 14, where Prokoski teaches that thermal characteristics of the lower face offer clues to the gender of a subject*). However, Prokoski is silent on implementing gender classification. Gutta teaches a similar feature-based gender classification system that uses a

mixture of features to perform gender classification (*see Gutta page 956 “Gender Classification”*).

The ordinarily-skilled artisan, starting with the Prokoski’s thermal features offering clues to gender, would have appreciated the benefits of using such features to classify images according to gender, as proposed by Gutta. The artisan of ordinary skill, with recourse to common sense, would readily see the benefits of classifying images by gender according to thermal characteristics, which would produce the well-known, predictable and expected results and benefits of increasing the accuracy of the resulting gender determination. The artisan of ordinary skill would have been motivated to combine Prokoski with Gutta, as proposed above, at least because both Prokoski and Gutta are similarly directed to face feature analysis and classification.

Therefore, a person having ordinary skill in the image processing arts at the time of the invention would have found it obvious to combine the gender classification of Gutta with the thermal feature recognition system of Prokoski to achieve the well-known and expected benefits of increasing the accuracy of the resulting gender determination.

Regarding claim 3, Prokoski teaches the gender identification method as claimed in claim 2, wherein the facial region is the cheek region (*see Prokoski page 14, where Prokoski teaches that thermal characteristics of the lower face (i.e. the cheek region) offer clues to the gender of a subject*).

Regarding claim 4, Prokoski teaches the gender identification method as claimed in claim 3, wherein gender discrimination is conducted based on the temperature of the cheek region (*see*

*Prokoski page 14, where Prokoski teaches that thermal characteristics of the lower face (i.e. the cheek region) offer clues to the gender of a subject).*

Regarding claims 5-7, Prokoski teaches the gender identification method as claimed in claim 3, wherein gender discrimination is conducted based on the temperature of the cheek region (*see Prokoski page 14, where Prokoski teaches that thermal characteristics of the lower face (i.e. the cheek region) offer clues to the gender of a subject)*). Prokoski is silent on the method further comprising, wherein gender discrimination is conducted based on the temperature variance of the cheek region, wherein the temperature variance is a variance value based on

$$\frac{1}{n} \sum_{i=1}^n (X_i - \bar{X})^2.$$

and on  $\frac{1}{n} \sum_{i=1}^n (X_i - \bar{X})^4$ . However, official notice is taken to note that the uses and benefits of performing gender discrimination based on the temperature variance of the cheek region and the emphasized variance are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to perform gender discrimination based on the temperature variance of the cheek region in the system of Prokoski and Gutta as described re claim 2 above, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Regarding claim 8, Prokoski teaches the gender identification method as claimed in claim 2, wherein the facial region is the cheek region and jaw region (*see Prokoski page 14, where Prokoski teaches that thermal characteristics of the lower face (i.e. the cheek region) offer clues to the gender of a subject)*.

Regarding claim 9, Prokoski teaches the gender identification method as claimed in claim 8. Prokoski is silent on the method further comprising, wherein gender discrimination is

conducted based on the ratio of the temperatures of the cheek region and jaw region. However, official notice is taken to note that the uscs and benefits of using a ratio of the temperatures of the cheek region and jaw region are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to perform gender discrimination based on a ratio of the temperatures of the cheek region and jaw region in the system of Prokoski and Gutta as described re claim 2 above, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Regarding claim 10, Nishino teaches the gender identification method characterized in that gender discrimination is conducted based on a combination of the temperatures of facial regions of a human (*see Prokoski page 14, where Prokoski teaches that thermal characteristics of the lower face offer clues to the gender of a subject*). However, Prokoski is silent on implementing gender classification using both facial regions and hand regions. Gutta teaches a similar feature-based gender classification system that uses a mixture of features to perform gender classification (*see Gutta page 956 “Gender Classification”*).

The ordinarily-skilled artisan, starting with the Prokoski’s thermal features offering clues to gender, would have appreciated the benefits of using such features to classify images according to gender, as proposed by Gutta. The artisan of ordinary skill, with recourse to common sense, would readily see the benefits of classifying images by gender according to thermal characteristics, which would produce the well-known, predictable and expected results and benefits of increasing the accuracy of the resulting gender determination. The artisan of ordinary skill would have been motivated to combine Prokoski with Gutta, as proposed above, at

least because both Prokoski and Gutta are similarly directed to face feature analysis and classification.

Therefore, a person having ordinary skill in the image processing arts at the time of the invention would have found it obvious to combine the gender classification of Gutta with the thermal feature recognition system of Prokoski to achieve the well-known and expected benefits of increasing the accuracy of the resulting gender determination.

Neither Prokoski nor Gutta are understood to teach implementing gender classification using both facial regions and hand regions. However, official notice is taken to note that the uses and benefits of using both facial regions and hand regions are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to perform gender discrimination based on both facial regions and hand regions in the system of Prokoski and Gutta, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Regarding claim 11, Prokoski teaches the gender identification method as claimed in claim 1. Prokoski is silent on the method further comprising, wherein gender discrimination is conducted by applying temperature sampling templates to facial regions of a human and subjecting the temperatures of the sampled regions to statistical processing. However, official notice is taken to note that the uses and benefits of applying temperature sampling templates to facial regions of a human and subjecting the temperatures of the sampled regions to statistical processing are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to apply temperature sampling templates to facial regions of a human and subjecting the temperatures of the sampled regions to

statistical processing in the system of Prokoski and Gutta as described re claim 1 above, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Regarding claim 12, Prokoski teaches the gender identification method as claimed in claim 1. Prokoski is silent on the method further comprising, wherein gender discrimination is conducted by applying a temperature sampling template to a hand region of a human and subjecting the temperature of the sampled region to statistical processing. However, official notice is taken to note that the uses and benefits of applying a temperature sampling template to a hand region of a human and subjecting the temperature of the sampled region to statistical processing are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to apply a temperature sampling template to a hand region of a human and subjecting the temperature of the sampled region to statistical processing in the system of Prokoski and Gutta as described re claim 1 above, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Regarding similar claims 13 and 14, Prokoski teaches the gender identification method as claimed in claim 1. Prokoski is silent on the method further comprising, wherein gender discrimination is conducted by applying temperature sampling templates to facial and hand regions of a human, subjecting the temperature of the sampled regions to statistical processing with the terms for calculating the variance thereof changed from the second power to the fourth power, and using the so-obtained variance values for the gender discrimination. However, official notice is taken to note that the uses and benefits of applying temperature sampling

templates to facial and hand regions of a human, subjecting the temperature of the sampled regions to statistical processing with the terms for calculating the variance thereof changed from the second power to the fourth power, and using the so-obtained variance values for the gender discrimination are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to apply a temperature sampling template to a hand region of a human and subjecting the temperature of the sampled region to statistical processing in the system of Prokoski and Gutta as described re claim 1 above, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Regarding claim 15, Prokoski teaches the gender identification method comprising three methods among the methods of claim 2. Prokoski is silent on the method further comprising, wherein when the results are the same between two methods thereamong, that result is adopted as the discrimination result. However, official notice is taken to note that the uses and benefits of adopting a particular result as the discrimination result are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to apply a temperature sampling template to a hand region of a human and subjecting the temperature of the sampled region to statistical processing in the system of Prokoski and Gutta as described re claim 2 above, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Regarding claim 16, Prokoski teaches the gender identification method of claim 1. Prokoski is silent on the method which is unaffected by any eyeglass region when the subject is wearing glasses. However, official notice is taken to note that the uses and benefits of a system

unaffected by any eyeglass region when the subject is wearing glasses are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to use a system unaffected by any eyeglass region when the subject is wearing glasses in the system of Prokoski and Gutta as described re claim 1 above, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Regarding claim 17, Prokoski teaches the gender identification method of claim 1. Prokoski is silent on gender identification method that conducts gender discrimination using the color of eyeshadow, eyeliner or mascara around the eye of a human, of the eyebrow itself or mascara around it, of cheek rouge applied to the cheek, of lipstick applied to the lips or of facial skin, or the color of skin blackened by beard from cheek to jaw or moustache or of the beard/moustache. However, official notice is taken to note that the uses and benefits of a gender determination system that takes into account common facial features are well known and expected in the image processing arts. It would have been obvious to the artisan of ordinary skill at the time of the invention to use a gender determination system that takes into account common facial features in the system of Prokoski and Gutta as described re claim 1 above, to achieve the known and expected benefits of increasing the accuracy of the resulting classification.

Claim 18 has been analyzed and is rejected for the reasons indicated re claims 1 and 2 above.

Claim 19 has been analyzed and is rejected for the reasons indicated re claim 8 above.

Claim 20 has been analyzed and is rejected for the reasons indicated re claim 17 above.

Claim 21 has been analyzed and is rejected for the reasons indicated re claim 12 above.

***Allowable Subject Matter***

13. Claim 22 would be allowable if amended to overcome the 35 U.S.C. § 101 rejections.

The following is an examiner's statement of reasons for allowance: The prior art of record, alone or in combination, fails to teach or suggest the limitations of "discriminating whether a human subject of discrimination is male or female, which gender identification method comprises: obtaining infrared face image data on the subject using an image signal from a television camera; sampling the cheek region and jaw region temperatures of the subject based on the infrared face image data; calculating the averages of the temperatures; calculating cheek data/jaw data and a cheek emphasized variance value; mapping the cheek data/jaw data and cheek emphasized variance value on an XY plane; conducting first gender discrimination; conducting second gender discrimination using the cheek data/jaw data and third gender discrimination using the cheek emphasized variance value; and conducting gender identification of the subject in accordance with agreement between two or more of the first to third gender discrimination results" as recited in claim 22.

***Contact***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Koziol:

- phone (571) 270-1844, fax (571) 270-2844, or e-mail [stephen.koziol@uspto.gov](mailto:stephen.koziol@uspto.gov).

Typically, the examiner can be reached Monday - Friday 9:00 - 5:30 EST. For e-mail communications, please note MPEP 502.03, which states, in relevant part, "[w]ithout a written authorization by applicant in place, the USPTO will not respond via Internet e-mail to any Internet correspondence which contains information subject to the confidentiality requirement as set forth in 35 U.S.C. § 122." A sample authorization form which may be used by applicant can be found in MPEP 502.03 section II.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached at (571) 272-7453. Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Stephen R Koziol/  
Examiner, Art Unit 2624  
30 September 2010